

LISTING OF CLAIMS

1. (currently amended) A magnetic force generator comprising:
a shell internally defining an armature chamber having an axis;
at least two circumferential electric coils spaced axially within the chamber;
an armature supported in the chamber for reciprocation on the axis, the armature including at least two axially spaced permanent magnets mounted on an exterior of an axially extending steel magnetic [[tube]] core;
resilient members nominally centering the armature in the chamber;
the permanent magnets extending axially, inwardly adjacent and in general alignment with the electric coils;
the magnets having radially extending flux lines passing through the coils;
and
controlled energizing of the coils being operative on the permanent magnets to reciprocate the armature axially in a controlled manner relative to the shell to develop an opposite inertia force on the shell for application to a connected body.

2. (currently amended) A magnetic force generator as in claim 1 wherein the magnets are cylindrical and the core is a tube which supports the magnets over approximately their full axial lengths.

3. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the resilient members are compression springs.

4. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the shell is part of a housing including non-magnetic ends closing the chamber.

5. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the shell is formed of material which carries magnetic flux.

6. (original) A magnetic force generator as in claim 5 wherein the shell material is carbon steel.

7. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the armature has end caps formed of a non-magnetic material.

8. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the magnets are formed of a suitable magnetic material.

9. (original) A magnetic force generator as in claim 8 wherein the magnetic material is ferrite.

10. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the magnets are radially magnetized in opposite directions.

11. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the coils are wound in opposite directions.

12. (currently amended) A magnetic force generator as in claim [[1]] 2 wherein the axial length of the coils is generally similar to the axial length of the magnets.

13. (currently amended) A magnetic force generator comprising:
a shell internally defining an armature chamber having an axis;

at least two circumferential electric coils spaced axially and fixed within the chamber;

an armature supported in the chamber for reciprocation on the axis, the armature including at least two axially spaced permanent magnets fixedly mounted on an exterior of an axially extending magnetic tube;

resilient members nominally centering the armature in the chamber;

the permanent magnets extending axially, inwardly adjacent and in general alignment with the electric coils;

the magnets being radially magnetized and generating radially extending flux lines passing through the coils; and

controlled energizing of the coils being operative on the permanent magnets to reciprocate the armature axially in a controlled manner relative to the shell to develop an opposite inertia force on the shell for application to a connected body.

14. (previously presented) A magnetic force generator as in claim 13 wherein the shell is part of a housing including non-magnetic ends closing the chamber.

15. (previously presented) A magnetic force generator as in claim 13 wherein the shell is formed of material which carries magnetic flux.

17. (previously presented) A magnetic force generator as in claim 13 wherein the armature has end caps formed of a non-magnetic material.

18. (previously presented) A magnetic force generator as in claim 13 wherein the magnets are radially magnetized in opposite directions.

19. (previously presented) A magnetic force generator as in claim 13 wherein the coils are wound in opposite directions.

20. (currently amended) A magnetic force generator as in claim 13 wherein the axial length of the coils is generally similar to the axial length of the magnets and the magnetic tube supports the magnets over approximately their full axial lengths.